

Claims

1. A microelectrical mechanical system (MEMS) raster optical display system, comprising:
 - an image surface;
 - a modulated light source;
 - a microelectrical mechanical system (MEMS) device that supports a reflective surface and tilts it in first and second transverse directions, the reflective surface being positioned to receive modulated light from the light source and to direct reflected light toward the image surface in a raster scan pattern in coordination with modulation of the light source.
2. The system of claim 1 further comprising plural modulated light sources that each direct modulated light toward the reflective surface, the plural light sources being positioned so that the reflective surface reflects modulated light from each of the plural light sources to a separate region of the image surface, thereby to form plural contiguous, generally non-overlapping, raster scan patterns on the image surface.
3. The system of claim 2 further comprising:
 - plural microelectrical mechanical system (MEMS) devices, each supporting a reflective surface and tilting it in first and second transverse directions;
 - plural modulated light sources positioned to direct modulated light to each reflective surface to be reflected therefrom each to a separate region of the image surface, thereby to form plural contiguous, generally non-overlapping, raster scan patterns on the image surface.
4. The system of claim 2 in which each raster scan pattern encompasses a display region of 100 pixels-by-100 pixels, or less.
5. The system of claim 2 in which each raster scan pattern encompasses a display region of about 50 pixels-by-50 pixels.
6. The system of claim 2 further comprising:
 - plural microelectrical mechanical system (MEMS) devices, each supporting a reflective surface and tilting it in first and second transverse

directions;

plural modulated light sources, each positioned to direct modulated light to a separate reflective surface to be reflected therefrom to a separate region of the image surface, thereby to form plural contiguous, generally non-overlapping, raster scan patterns on the image surface.

7. The system of claim 1 in which the raster scan pattern encompasses a display region of 100 pixels-by-100 pixels, or less.

8. The system of claim 1 in which the raster scan pattern encompasses a display region of about 50 pixels-by-50 pixels.

9. The system of claim 1 in which the image surface is a display screen.

10. the system of claim 1 in which the microelectrical mechanical system (MEMS) device includes a thermally-activated actuator.

11. A microelectrical mechanical system (MEMS) raster optical display method, comprising:

directing modulated light toward a reflective surface supported on a microelectrical mechanical system (MEMS) device;

tilting the reflective surface in first and second transverse directions with the microelectrical mechanical system (MEMS) device in first and second transverse directions to reflect the modulated light toward an image surface in a raster scan pattern.

12. The system of claim 11 further comprising:

directing plural separately modulated lights toward the reflective surface, wherein tilting of the reflective surface in first and second transverse directions reflects the separately modulated lights to separate regions of the image surface to form plural contiguous, generally non-overlapping, raster scan patterns on the image surface.

13. The method of claim 12 in which each raster scan pattern encompasses a display region of 100 pixels-by-100 pixels, or less.

14. The system of claim 12 in which each raster scan pattern encompasses a display region of about 50 pixels-by-50 pixels.

15. The method of claim 11 in which the image surface is a display

screen.

16. A microelectrical mechanical system (MEMS) raster optical display system, comprising:

a display surface;

a modulated light source;

a microelectrical mechanical system (MEMS) device that supports a reflective surface and tilts it in first and second transverse directions, the reflective surface being positioned to receive modulated light from the light source and to direct reflected light toward the display surface in a two-dimensional scan pattern in coordination with modulation of the light source.

17. The system of claim 16 further comprising plural modulated light sources that each direct modulated light toward the reflective surface, the plural light sources being positioned so that the reflective surface reflects modulated light from each of the plural light sources to a separate region of the display surface, thereby to form plural contiguous, generally non-overlapping, two-dimensional scan patterns on the display surface.

18. The system of claim 17 further comprising:

plural microelectrical mechanical system (MEMS) devices, each supporting a reflective surface and tilting it in first and second transverse directions;

plural modulated light sources positioned to direct modulated light to each reflective surface to be reflected therefrom each to a separate region of the display surface, thereby to form plural contiguous, generally non-overlapping, two-dimensional scan patterns on the image surface.

19. The system of claim 17 further comprising:

plural microelectrical mechanical system (MEMS) devices, each supporting a reflective surface and tilting it in first and second transverse directions;

plural modulated light sources, each positioned to direct modulated light to a separate reflective surface to be reflected therefrom to a separate region of the display surface, thereby to form plural contiguous, generally non-overlapping,

two-dimensional scan patterns on the display surface.